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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,405	11/10/2005	**Dinand Lamberts**	016782-0340	3705

22428 7590 03/16/2010

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EXAMINER	
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ART UNIT	PAPER NUMBER
3743	

MAIL DATE	DELIVERY MODE
03/16/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,405	LAMBERTS ET AL.	
	Examiner	Art Unit	
	DANIEL A. BERNSTEIN	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,10-18,20-22 and 24-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5, 10-18 and 20-22 and 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant has amended claim 1 to include "having a lower flame front where the gas ignites outside said membrane" and it is unclear where the flame front is lower in relation to other sections of the flame.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 1, 5, 11, 20-22 and 24-26 rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,122,197 to Saponara et al in view of US 6,149,424 to Marrecau et al.

In regards to claim 1, Saponara discloses a gas burner (radiant gas burner, Fig. 1-4), comprising: a metal burner membrane (burner membrane 28 which is made of a fine flexible mesh screen, Saponara is silent to the material in which the mesh screen is made) configured such that, during use, gas penetrates before being ignited (Saponara discloses that the flame is on the outside surface of the outer screen, Col. 1 lines 46-55) and resulting in visible flames having a lower flame front where the gas ignites outside said membrane (see 112 2nd paragraph rejection above, since the membrane of Saponara has been formed with undulations, the flame will vary along the curvature of the membrane), but does not teach wherein said membrane comprises a fabric comprising stainless steel fibers.

Saponara discloses wherein said membrane of the gas burner comprises a base section having a smallest radius of curvature being Rbase (base of undulated membrane, see Fig. 3), a closing section (top of the undulated membrane), and a transition region (curved portion that connects the base and closing section as shown in Fig. 3) connecting said base section to said closing section, wherein said membrane is uninterrupted (the membrane has a plurality of undulations that are uninterrupted), but does not teach wherein said transition region has a smallest radius of curvature r-

transition being larger than or equal to 0.02 x Rbase and being smaller than or equal to 0.7 x Rbase.

Marrecau discloses an undulated burner membrane in which said membrane comprises a fabric comprising stainless steel fibers (the membrane 16 is made of stainless steel, see Fig. 1) for the purpose of being resistive to high temperature.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Saponara with Marrecau for the purpose of making the mesh membrane of Saponara out of stainless steel mesh so that the membrane can resist high temperatures. Stainless steel mesh is well known to someone of ordinary skill in the art to be highly malleable and resistive to high temperatures which make stainless steel mesh an ideal material for radiant burner screens. Therefore, it would have been obvious to combine Saponara with Marrecau so that the mesh screen of Saponara could better resist thermal cycling, thus prolonging the life of the mesh screen.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to optimize the range of the transition radius of curvature of Saponara for the purpose of optimizing the flame shape and heat output range of the burner. It is well known to someone of ordinary skill in the art that an undulated burner membrane can raise the heat output of a radiant burner higher than a conventional flat type radiant burner. Therefore, it would have been obvious to optimize the range of the transition radius of curvature of Saponara burner membrane to obtain a desired heat output of the radiant burner. Optimizing the range and curvature of the membrane

would be well within the capabilities of someone of ordinary skill in the art and would not have led to undue experimentation at the time of the invention.

In regards to claim 5, Saponara in view of Marrecau discloses a gas burner as in claim 1, wherein said membrane further comprises a foraminated plate, a foraminated sheet (Saponara discloses a plurality of intermediate foraminous members, fine mesh screen 26 and foraminous member 30, both of which support the undulated wire mesh 28) , or a deep drawn or stamped wire mesh for supporting said fabric.

In regards to claim 11, Saponara in view of Marrecau discloses a gas burner as in claim 5, wherein said base section has a cylindrical shape (see Fig. 1 of Saponara where the base section has a cylindrical shape).

In regards to claim 20, Saponara in view of Marrecau discloses a gas burner as in claim 3, wherein said membrane further comprises a foraminated plate, a foraminated sheet (Saponara discloses a plurality of intermediate foraminous members, fine mesh screen 26 and foraminous member 30, both of which support the undulated wire mesh 28), or a deep drawn or stamped wire mesh for supporting said fabric.

In regards to claim 21, Saponara in view of Marrecau discloses a gas burner as in claim 4, wherein said membrane further comprises a foraminated plate, a foraminated sheet (Saponara discloses a plurality of intermediate foraminous members, fine mesh screen 26 and foraminous member 30, both of which support the undulated wire mesh 28), or a deep drawn or stamped wire mesh for supporting said fabric.

In regards to claim 22, Saponara in view of Marrecau discloses a gas burner as in claim 1, but does not teach wherein the smallest radius of curvature R-base of the

base section and the smallest radius of curvature r-transition of the transition region follow the following relation: 0.02 x R-base greater then or equal to r-transition less than or equal to 0.35 x R-base.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to optimize the range of R-base and r-transition for the purpose of obtaining desired flame shape and temperature characteristics. Saponara discloses a burner membrane with uneven flame shape characteristics. It would have been obvious to one of ordinary skill at the time of conception to design and optimize the shape of the burner membrane. This optimization of ranges would not have entailed undue experimentation and would have been within the capabilities of someone of ordinary skill in the art.

In regards to claim 24, Saponara in view of Marrecau discloses a gas burner as in claim 1, but does not teach wherein the smallest radius of curvature R-base of the base section and the smallest radius of curvature r-transition of the transition region follow the following relation: 0.09 x R-base greater then or equal to r-transition less than or equal to 0.70 x R-base.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to optimize the range of R-base and r-transition for the purpose of obtaining desired flame shape and temperature characteristics. Saponara discloses a burner membrane with uneven flame shape characteristics. It would have been obvious to one of ordinary skill at the time of conception to design and optimize the shape of the burner membrane. This optimization of ranges would not have entailed

undue experimentation and would have been within the capabilities of someone of ordinary skill in the art.

In regards to claim 25, Saponara in view of Marrecau discloses a gas burner as in claim 1, but does not teach wherein the smallest radius of curvature R-base of the base section and the smallest radius of curvature r-transition of the transition region follow the following relation: 0.18 x R-base greater then or equal to r-transition less than or equal to 0.35 x R-base.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to optimize the range of R-base and r-transition for the purpose of obtaining desired flame shape and temperature characteristics. Marrecau discloses a burner membrane with uneven flame shape characteristics. It would have been obvious to one of ordinary skill at the time of conception to design and optimize the shape of the burner membrane. This optimization of ranges would not have entailed undue experimentation and would have been within the capabilities of someone of ordinary skill in the art.

In regards to claim 26, Saponara in view of Marrecau discloses a gas burner as in claim 1, wherein the smallest radius of curvature Rbase (base of undulated membrane, see Fig. 3, Saponara) of the base section and the smallest radius of curvature r-transition (curved portion that connects the base and closing section as shown in Fig. 3) of the transition region are determined from a side of the membrane which faces the flames (the smallest radius of both the base and transition region can be determined from the top side of the membrane).

6. Claims 3-4 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Saponara in view of Marrecau and US 6,065,963 to Dewaegheneire.

In regards to claim 3, Saponara in view of Marrecau discloses a gas burner as in claim 1, but does not teach wherein said stainless steel fibers are arranged essentially parallel into bundles.

Dewaegheneire teaches a conical surface burner with a membrane (2, Fig. 1) that comprises stainless steel fibers that are arranged essentially parallel into bundles (Col. 2 lines 7-17).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Saponara with Dewaegheneire for the purpose of providing the burner of Saponara with a perforated metal fabric membrane made out of stainless steel in which the stainless steel fibers where arranged essentially parallel into bundles. This would have been an obvious design choice, because there are only so many known methods of arranging stainless steal into bundles and a parallel configuration is well known to someone of ordinary skill in the art as evidenced by Dewaegheneire. Therefore, it would have been obvious to combine Marrecau with Dewaegheneire, because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It also would have been obvious to combine Saponara with Dewaegheneire in order to increase the strength and durability of the metal mesh fabric.

In regards to claim 4, Saponara in view of Marrecau and Dewaegheneire discloses a gas burner as in claim 3, wherein said bundles are knitted or braided or woven (Dewaegheneire, Col. 1 lines 5-6).

In regards to claim 10, Saponara in view of Marrecau discloses a gas burner as in claim 5, but does not teach wherein said base section has a shape of a conical surface of a frustum of a cone.

Dewaegheneire teaches a metal burner membrane with a shape of a conical surface of a frustum of a cone (see Fig. 1-2 where the base of metal burner membrane 2 is formed by a cone and the top of 2 is flat).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Saponara with Dewaegheneire for the purpose of providing the burner of Saponara with a metal burner membrane that has a frustoconical shape at the base of the membrane. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Conical surfaces are well known in the art of radiant burners as evidenced by Dewaegheneire. Changing the shape of a wire mesh changes the flame shape and heat profile. Furthermore, conical surfaces decrease the size of the burner assembly without sacrificing the total surface area of the mesh membrane. Therefore, it would have been an obvious design choice to combine Saponara with Dewaegheneire in order to save space and achieve desired flame properties.

7. Claim 12 and 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Saponara in view of Marrecau, Dewaegheneire and US 2,822,799 to Sterick.

In regards to claim 12, Saponara in view of Marrecau and Dewaegheneire discloses a gas burner as in claim 10, but does not teach wherein said transition region is part of a torus surface delimited by two planes perpendicular to an axis of symmetry of said torus.

Sterick teaches a metal burner membrane with a torus structure (see Fig. 3, a torus is a doughnut like shape with a depressed middle).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Saponara with Sterick for the purpose of providing the burner of Marrecau with a metal burner membrane that has a torus shape. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Torus surfaces are well known in the art of radiant burners as evidenced by Sterick. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Sterick in order to achieve desired flame properties and a burner heat profile.

In regards to claim 16, Saponara in view of Marrecau, Dewaegheneire and Sterick discloses a gas burner as in claim 12, wherein said closing section is a small

inverted sphere cap (see Fig. 2 of Sterick which shows a depression in the membrane) such that a depression forms at a center of said burner membrane.

In regards to claim 17, Saponara in view of Marrecau and Dewaegheneire discloses a gas burner as in claim 11, but does not teach wherein said transition region is part of a torus surface delimited by two planes perpendicular to an axis of symmetry of said torus.

Sterick teaches a metal burner membrane with a torus structure (see Fig. 3, a torus is a doughnut like shape with a depressed middle).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Marrecau in view of Dewaegheneire with Sterick for the purpose of providing the burner of Marrecau with a metal burner membrane that has a torus shape. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Torus surfaces are well known in the art of radiant burners as evidenced by Sterick. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Sterick in order to achieve desired flame properties and a burner heat profile.

In regards to claim 18, Saponara in view of Marrecau and Dewaegheneire discloses a gas burner as in claim 11, but does not teach wherein said transition region is in a form of a circular ridge.

Sterick teaches a metal burner membrane with a torus structure that has a transition region in the form of a circular ridge (see Fig. 3, a torus is a doughnut like shape with a depressed middle).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Marrecau in view of Dewaegheneire with Sterick for the purpose of providing the burner of Marrecau with a metal burner membrane that has a torus shape with a transition region in the form of a circular ridge. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Torus surfaces are well known in the art of radiant burners as evidenced by Sterick. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Sterick in order to achieve desired flame properties and a burner heat profile.

8. Claim 13-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Saponara in view of Marrecau and US 3,857,670 to Karlovetz et al.

In regards to claim 13, Saponara in view of Marrecau discloses a gas burner as in claim 5, but does not teach wherein said base section has a polygonal cross section, the corners of said cross section being rounded.

Karlovetz teaches a metal burner membrane (18) that has a base section that has a polygonal cross section, the corners of said cross section being rounded (the cross section of the base in Fig. 8 is polygonal and has rounded corners).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Marrecau in view of Dewaegheneire with Karlovetz for the purpose of providing the burner of Marrecau with a metal burner membrane that has a polygonal shape with rounded corners. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Polygonal surfaces are well known in the art of radiant burners as evidenced by Karlovetz. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Karlovetz in order to achieve desired flame properties and a burner heat profile.

In regards to claim 14, Saponara in view of Marrecau discloses a gas burner as in claim 5, but does not teach wherein said base section has a rectangular cross section, the corners of said cross section being rounded.

Karlovetz teaches a metal burner membrane (18) that has a base section that has a rectangular cross section, the corners of said cross section being rounded (the cross section of the base in Fig. 8 is rectangular and has rounded corners).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Marrecau in view of Dewaegheneire with Karlovetz for the purpose of providing the burner of Marrecau with a metal burner membrane that has a rectangular shape with rounded corners. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Rectangular surfaces are well known in the art of radiant burners as evidenced by Karlovetz. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Karlovetz in order to achieve desired flame properties and a burner heat profile.

In regards to claim 15, Saponara in view of Marrecau discloses a gas burner as in claim 5, but does not teach wherein said base section is a truncated pyramid, said pyramid having rounded edges.

Karlovetz teaches a metal burner membrane (18) that has a base section that is a truncated pyramid, the corners of said cross section being rounded (the cross section of the base in Fig. 8 is a truncated pyramid and has rounded corners, a truncated pyramid is a pyramid that has its top removed).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Marrecau in view of Dewaegheneire with

Karlovetz for the purpose of providing the burner of Marrecau with a metal burner membrane that has a base with a truncated pyramid with rounded corners. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Truncated surfaces are well known in the art of radiant burners as evidenced by Karlovetz. Changing the shape of a wire mesh changes the flame shape and heat profile. Therefore, it would have been an obvious design choice to combine Saponara with Karlovetz in order to achieve desired flame properties and a burner heat profile.

Response to Arguments

9. Applicant's arguments with respect to claim 1, 3-5, 10-18 and 20-25 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed 11/04/2009 have been fully considered but they are not persuasive.

The examiner would like to point out that many of the applicant's arguments are not commensurate with the scope of claim 1. Even so, the arguments will be addressed for the sake of clarification to the applicant.

The applicant has argued that the reference of Marrecau does not teach a burner membrane which teaches that the gas penetrates the membrane before combustion. The examiner agrees with the applicant that Marrecau does not specifically state whether the gas combusts before it penetrates the membrane or outside the membrane.

There are basically three types of radiant burners well known to someone of ordinary skill in the art. Radiant burners in which the gas combusts before penetrating the membrane, radiant burners in which combustion occurs within the membrane and radiant burners in which the flame is produced on the outer surface of the membrane (as is the case with the applicants invention). Of the three basic types of radiant burners, there are hybrid radiant burners which employ a mixture of the three above conditions. Since the reference of Marrecau does not clearly state where combustion occurs, the new reference of Saponara has been used to address newly amended claim 1 where "the gas ignites outside said membrane".

The applicant argues that the membrane of this particular invention does not heat up. The applicant has no support in the specification for this argument. Furthermore, basic laws of thermodynamics govern bodies which have mass will heat up if exposed to a temperature increase. It would be scientifically impossible for the mesh membrane of the applicant to not increase in temperature during operation of the burner as the metal mesh membrane has mass and is in close proximity to a flame and combustion. The flame will emit heat in all directions and the ambient temperature around the apparatus will inherently be lower than the flame temperature.

The applicant also argues that the art of record teaches a radiant gas burner and not a gas burner, implying that the cited art of record is non-analogous art. Since the cited art of record and the applicant's art are both combusting gas, they are both considered gas burners. Furthermore, the applicant's invention would be considered a radiant burner and would be classified as a radiant burner.

The applicant argues that the flow rate characteristics through the membrane are different from cited art of record. This argument is not commensurate with the scope of the claims since none of the claims claim flow rate characteristics.

The applicant argues that none of the references show an uninterrupted mesh membrane. Both Sopanara and Marrecau teach uninterrupted mesh membranes as in both references show a mesh that is continuous.

The applicant argues that none of the cited art teaches or renders obvious the ranges of Rbase and r-transition as claimed. The examiner respectfully disagrees, because the shape and structure of the membrane is known and one of ordinary skill in the art could design the shape in order to achieve a desired flame shape and heat output. See the rejection of claim 1.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL A. BERNSTEIN whose telephone number is (571)270-5803. The examiner can normally be reached on Monday-Friday 8:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAB

/Kenneth B Rinehart/

Supervisory Patent Examiner, Art Unit 3743